

and the necessity of suturing the wound after the removal of the tape. If, however, the clamp is screwed down too tight at first there is probably a danger of tearing the peritoneal coat of the intestine when the clamp is rolled. This accident will not occur if the clamp is properly used. It might be better to screw the clamp tight at first, cut between the clamp and forceps, and not do the rolling until the gangrenous mass has been removed and the sutures are to be employed. The field of operation will then be left free from more or less mucus that always escapes between the clamp or forceps or tape and the cut end of the intestine. If this method is employed a narrow strip of gut that may have been pressed on unduly by the clamp can be trimmed off, giving a fresh surface for the suture. It has also been suggested that the intestine might be emptied by substituting the first or ring and middle fingers for the clamp; but it is doubtful if the fingers will do the work as satisfactorily as the clamp.

After the dressings were applied the boy was put to bed with a pale and perspiring skin and a pulse of 180. Artificial heat and adrenalin solution hypodermically were employed, with good effect. The temperature was 102° on the morning following the operation and gradually dropped from day to day and reached 98° on the fifth day, with a slight evening rise for a few days. The pulse dropped gradually, but rose again about three weeks after the operation for a few days from no apparent cause. Faecal vomiting occurred on the first day, then ceased after a thorough gastric lavage. Rectal alimentation until the third day, when the rectum became irritable and the patient voided involuntarily three or four large and bloody and very fetid stools. Water to quench thirst was used from the first, but not always retained. On the fourth day egg albumin was tried by the stomach and retained. After that the history is of a rapid convalescence. He left the hospital February 15, somewhat anæmic and weak, and has been gaining strength and flesh since, with a little sluggishness in bowel action. The length of the resected portion of the intestine was 40 inches.

ACUTE INTESTINAL OBSTRUCTION FROM STRANGULATION OF MECKEL'S DIVERTICULUM.

DR. GEORGE EMERSON BREWER presented a boy, 8 years old, who was admitted to the Roosevelt Hospital in February, 1907, suffering from acute intestinal obstruction. He had always

enjoyed good health until 8 days before admission, when he experienced an acute attack of abdominal pain which was followed by nausea and vomiting. Up to the time of that attack, the bowels had moved regularly, and there was no history of previous colic or vomiting.

During the eight days which had elapsed between the onset of the trouble and his admission to the hospital he had had many periods of vomiting. During the first two or three days the bowels had moved slightly, and some gas had been expelled; but for the past three or four days before admission, absolutely nothing had passed from the bowels, and there had occurred a gradual distension of the abdomen, with slight elevation of temperature.

On admission, the boy appeared to be seriously ill. The face was drawn, the eyes sunken, the mouth and tongue dry. The abdomen was slightly distended, and on palpation, an increased sense of resistance could be apparently felt over the region of the ascending and transverse portions of the colon. The entire abdomen was moderately tender, but no distinct mass could be felt. Rectal examination was negative. There had been no mucous or bloody outflow.

The patient was immediately prepared for operation, and the abdomen opened by a median incision. The small intestine lying directly beneath the incision appeared to be of a deep purple color, and in spots was matted together by a fibrinous exudate. The cæcum and sigmoid were found to be collapsed, but a portion of the small intestine in the left upper quadrant was much distended. On drawing the congested mass upward, it was found to be tightly constricted by what at first appeared to be a thickened vermiform appendix, the tip of which was firmly adherent to a portion of the ileum, thus forming a loop through which two or three feet of ileum had protruded and had become tightly constricted. A rapid search in the ileocæcal region, however, revealed the presence of a normal appendix entirely free from the structure which formed the constricting band.

The strangulated intestines were released by dividing the constricting band from its attachment to the ileum, and the stump was ligated with chromic catgut. It was then found that the constricting band consisted of an intestinal diverticulum arising from the intestine and extending to the border of the ileum. Its distal extremity was firmly attached to the cæcum just to the outer side

of the implantation of the vermiform appendix. From this point it was divided and removed. It was found to consist of the four coats of intestine, and measured about 5 cm. in length. It was fusiform in shape, its centre measuring about $3\frac{1}{2}$ cm. in circumference. At the point of intestinal attachment, its lumen had apparently been obliterated.

After the released intestine was returned to the abdominal cavity, its color gradually improved, and although at the points where the constricting band had compressed the intestine, there appeared to be a slight superficial necrosis, it was thought that the chance of perforation was so small as not to interfere with the complete closure of the wound.

The operation was followed by comparatively little reaction, and the vomiting ceased almost immediately. After a few hours there was a free passage of gas, and on the second or third day a satisfactory movement of the bowels was obtained by the use of an enema.

The wound healed primarily, and the stitches were removed on the sixth day. During the second week of the patient's convalescence, as the result of some unusual bodily exertion, the wound re-opened and a small loop of intestine protruded. This necessitated the use of anaesthesia, and resuturing the wound. With the exception of a mild infection due to contamination of the wound at the time of its breaking open, further recovery was uneventful.

The pathological examination of the diverticulum showed its lumen to be lined with mucous membrane similar to that lining the adjacent ileum.

In reply to a question, Dr. Brewer said this patient gave no history of any previous intestinal trouble.

DR. CHARLES L. GIBSON said that in looking up this subject of intestinal obstruction from strangulation of Meckel's diverticulum several years ago, he was struck by the fact that most of the cases that came to operation were between the ages of ten and twenty years, and that it occurred mainly in the male sex. It was very much more frequent in males than in females.

DR. JOHN F. ERDMANN said that six or seven years ago he reported three cases of intestinal obstruction due to Meckel's diverticulum. In one of them, a gentleman rider at the Horse Show, it was necessary to excise 7 feet of intestine, the patient dying 2 days after the operation. The second case was a boy of 18 years

in whom the strangulation was relieved without excision, the patient making a rapid recovery. The third case was a man about 38 years old, in whom there was no strangulation of the gut, but gangrene of the tip of the diverticulum, its appearance being very similar to that of a necrotic appendix. The patient recovered.

DR. WOOLSEY referred to the relative frequency of adhesions in Meckel's diverticulum, and said that a possible explanation of the fact noted by Dr. Gibson, namely, that strangulation from this cause was most frequent between the ages of ten and twenty years, was to be found in these adhesions, for if they were so situated as to be a possible cause of strangulation, the latter would be liable to be produced before the twentieth year.

DR. ERDMANN recalled one case in which he had assisted Dr. Joseph D. Bryant to operate, about 15 or 16 years ago, where a typical Meckel's diverticulum was found in a man nearly 70 years old. Gangrene and death followed.

INTUSSUSCEPTION.

DR. JOHN D. RUSHMORE read a paper with the above title, for which see page 210.

DR. JOHN A. HARTWELL said that one reason why the true character of the lesion in these cases was so easily overlooked was the remarkable freedom from shock that these patients enjoyed during the first few hours. That fact had been pointed out by Dr. Rushmore, and as an illustration of it Dr. Hartwell reported the case of a 9 months old infant which he recently saw at the Lincoln Hospital. The history was that the child had suddenly begun to vomit about noon, and when he saw it, at 9 o'clock that evening, it had had one bloody movement from the bowels. The temperature and pulse were normal; there was no abdominal distension, and the child was asleep and apparently comfortable. The palpation of a tumor at the hepatic flexure caused no pain or discomfort. Upon opening the abdomen, an intussusception was found at the ileocaecal valve. It was reduced without much difficulty, and the child was discharged three days later, entirely recovered. At no time was there the slightest evidence of shock.

Dr. Hartwell said that another point in Dr. Rushmore's paper to which he wished to refer was in connection with the attempts